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Nearly three years into the COVID-19 pandemic, researchers are only beginning to understand the virus' short and long-term effects. Over one million people in the United States have lost their lives to COVID-19, and many others continue to suffer long-term health consequences related to its impact on both physical and mental health (John Hopkins, 2022). The pandemic has devastated marginalized groups, many of whom continue to feel the most severe and resounding impacts of the pandemic (National Women's Law Center, 2022; Yancy, 2020). Historically marginalized groups are bearing the brunt of the pandemic's economic and social fallout (National Women's Law Center, 2022). The objective of this research was to learn more about how middle-aged women between the ages of 40-65 found outdoor forms of exercise such as running, walking, or jogging useful during the pandemic for improving their physical and mental health. As our communities move back and forth between restrictions and the virus is slowed by an increasing vaccine booster rollout, the collateral damage to our mental health will need to be discussed and researched for decades to come. The three major themes that emerged from interviews indicate that these women used outdoor forms of exercise to feel better, cope and encourage positivity in the face of unknown challenges. Findings from this study suggest that these participants did find outdoor exercise practices useful, but each had their reasons, experiences, and feelings about why it helped them manage their health. This study highlights the voices of middle-aged women and suggests that more support is needed for communities to prepare for prospective infection waves or pandemics.

MOVING THROUGH A GLOBAL HEALTH CRISIS: EXPLORING HOW MIDDLE-AGED
WOMEN USED OUTDOOR EXERCISE DURING THE COVID-19 PANDEMIC

by

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Dr. Michael Hemphill
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DEDICATION

Jamie— thank you for the support and encouragement you continually offer to help me complete my goal of pursuing a doctorate. You have been more than I could have ever asked for, and I will never be able to thank you enough for everything you have done for me.

Mom— thank you for keeping me going and never wavering in your support. Your example has always been one of the greatest gifts you have given me.

Dad— thank you for pushing me to push myself and instilling in me at my earliest moment love for learning and how to find beauty in everything around us. You have taught me to appreciate every moment and find wonder and joy in it. I hope this makes you proud

APPROVAL PAGE

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CHAPTER I: PROJECT OVERVIEW

The World Health Organization declared COVID-19 a public health emergency in January 2020, and it remains a health crisis due to ongoing waves of infections caused by variants (Richardson et al., 2022). As experts learn more about the impacts of the pandemic over the last several years, it is clear that women are bearing the brunt of the economic and social fallout of COVID-19 (Sachs et al., 2022; Yancy, 2020). COVID-19 is generating a mental-health pandemic of unmatched proportions that will continue long after the virus is gone. Although research is rapidly evolving, no known studies have explicitly explored how middle-aged women may have used outdoor exercise to improve their physical and mental health. Some studies have examined how cardiovascular fitness may offer some protection against the virus (Sallis et al., 2021) and help with vaccine efficacy (Dinas et al., 2022). Researchers have not specifically explored the role of outdoor running or walking in mental health for women from their perspective. As communities continue to adjust and plan for the next health emergency, the collateral damage to human health caused by the COVID-19 pandemic, particularly stress-related outcomes, will need to be discussed and researched for decades. This study seeks to contribute to what will surely be a necessary and lengthy conversation in the continued COVID-19 world.

Background Rationale

SARS-CoV-2, known as the Coronavirus Disease 2019 (COVID-19) is one of the biggest threats to global public health in the 21st century (Kickbusch et al., 2020). COVID-19 first emerged in China in late 2019, and the subsequent waves of shutdowns forced people across the globe to stop and modify nearly every aspect of their lives. The virus continues to spread at high rates as citizens, governments, and businesses are dealing with an upended world. One year after the World Health Organization declared a global pandemic in March 2020, the numbers were

striking. More than 118 million coronavirus cases were reported worldwide, with over 29,286,134 cases in the United States (GE Healthcare, 2021). In the fall of 2022, there were 1.05 million deaths in the United States and over 6.53 million worldwide (John Hopkins, 2022). Many have decided that the pandemic has ended, but the numbers continue to show that this is false (Sullivan & Stein, 2022). Many remain vulnerable to the virus, such as the elderly, immunosuppressed, those with chronic diseases, or individuals who have chosen not to be vaccinated (Hasson et al., 2022). Despite the availability of vaccinations and improved treatments, researchers are only really beginning to understand the long-term effects of the virus on public health.

Known Impacts of COVID-19

The impacts of crises are never felt uniformly, and COVID-19 has been no exception. In the United States, the pandemic has devastated historically marginalized groups, many of whom continue to feel the most challenging and resounding impacts of the outbreak (Hasson et al., 2022; Yancy, 2020). Specifically, women and people of color continue to bear the brunt of the economic and social fallout of COVID-19, which is serving to worsen the global gender-poverty gap. This gap is driven by a disproportionate increase in women's unemployment and domestic responsibilities (UN Women, 2020). According to the National Women's Law Center, 2.3 million women in the U.S. completely dropped out of the labor force in 2020, with many leaving to take care of their families. This drop was due to the increased domestic responsibilities required when schools or employment opportunities closed, shifted to other industries, or changed during global shutdowns and the subsequent economic incentives (National Women's Law Center, 2021). In mid 2021, there were 10% fewer employed Black women in the United States than in March 2020, compared with only 5% fewer white men (Koeze, 2021). Over 80%

of women reported spending more time home-schooling their children than their spouses did in 2020 (Miller, 2020). Studies indicate that men have already returned to pre-pandemic labor force numbers, whereas there are 1.1 million fewer women in the labor force (CARE, 2020; Goldin, 2022). Economists do not expect women's employment levels to return to their pre-pandemic levels until 2024, and this timeframe is one year later than the projection for white men (McKinsey & Company, 2021). Thus, as a result of the ongoing effects of the pandemic on our economy, followed by a possible recession, marginalized groups will continue to deal with long-term economic fallout related to the pandemic. This will lead to increased stress levels.

The impact of pandemic stress on mental health is likely to be magnified in populations that have been economically and socially marginalized (Sachs et al., 2022; Yancy, 2020). In addition to job, housing, and food insecurity, in 2020, 27% of women worldwide reported an increase in anxiety, stress, and mental health issues because of the pandemic compared to only 10% of men (CARE, 2020; Hanson, 2021). According to the American Psychological Association, the isolation and social distancing associated with the pandemic heightened anxiety levels already reported by adult women (APA, 2010). Nearly half of all U.S. Adults (47%) stated that the stress level in their life increased compared to their lives before the pandemic (APA, 2021; Cleveland Clinic, 2020). Even though male and female respondents for this survey reported having increased feelings of anxiety, the rise in unease, worry, loss of interest, and stress increased more sharply for women (Hobby School of Public Affairs, 2020). An study published by the Annals of Internal Medicine in June of 2022 tracked 2020 user data from wearable technology and found that within thirty days of the pandemic declaration from WHO, there was a 27.3% average decrease worldwide in the number of steps per individual (Stockwell et al., 2021). While support must be given to those who face a severe risk of illness or the loss of

loved ones, these statistics indicate that even those who may not have had the virus are still encountering new challenges, stressors, and life disruptions due to the pandemic. It is critical to recognize that COVID-19 continues to affect much more than just women's physical health but that it is also generating a mental-health pandemic of unmatched proportions that experts argue will continue long after the virus is gone (Panchal et al., 2020). This is true for middle-aged women, who are already particularly vulnerable to experiencing the most burdensome physiological effects of COVID-19 and are also at higher risk for increased feelings of stress and negative mental impacts from the pandemic (Woods et al., 2020).

Coping and Stress

The process of cognitive appraisal, first established by Lazarus and Folkman (1984), focused on how individuals appraise and respond to internal or external stressors. Their work provides insight into how women might have used physical activity to improve their physical and mental health during lockdowns and the uncertain outcomes of the pandemic. Lazarus and Folkman's work focused on how a person, the environment, and the cognitive evaluation process help individuals identify available resources and options. Appraising and using available resources enables individuals to negotiate with new, existing, or ongoing external demands. Lazarus (1993) noted that stress results when an individual's appraisal of these demands exceeds their available coping resources. The transactional model proposes that an individual will use a coping strategy (or mechanism) to deal with a perceived threat, loss, or challenge. Coping is best defined as a range of actions an individual performs to handle a stressful event (Bartlett, 1998). Two broad dimensions of coping have been consistently identified in research: Coping responses that deal with the problem (problem-focused) and those that manage the associated emotions (emotion-focused) (Lazarus, 1993; Baynard & Graham-Bermann, 1993). During the height of the

pandemic, many middle-aged women dealt with loss in many forms ranging from significant loss of loved ones to loss of daily routines and normalcy.

Coping incorporates how an individual evaluates the stressor or demand and how their coping strategies will impact their welfare or well-being. This study “well-being” refers to a woman’s perceived mental health and stress levels. The World Health Organization describes mental health as a “state of well-being in which the individual realizes his or her abilities, can cope with the normal stresses of life, can work productively, and can make a contribution to his or her community” (WHO, 2004, p. 13). The phrase well-being is used in this study because it encompasses a range of mental health indicators. The goal of this study is to assess middle-aged women’s subjective experiences of stress and how they may have coped with it through outdoor exercise to improve their sense of well-being.

Benefits of Exercise on Mental Health

Research has found that regular forms of exercise, such as running or walking, help people improve overall health (Lee et al., 2017), manage anxiety and stress (Dogra et al., 2018; Gilbody et al., 2001; Hackney & Viru, 1999), reduce depression (Rimer et al., 2012; Strohle, 2009) and aid in the recovery process after traumatic events (Merelas-Iglesias & Sánchez-Bello, 2019). Several previous studies have explored running as a tool for improving well-being and mental health indicators. Running has been found to help individuals cope with increased stress levels (Nicholls et al., 2009), build qualities such resilience or mental toughness (Jaeschke, Sachs & Dieffenbach, 2016), improve dedication (Simpson, Post, & Tashman, 2014), experience enjoyment (Williams, 2013), grow social support (Cronan & Scott, 2008), increase optimism (Bull et al., 1996), and promote increased feelings of self-determination (Ryan & Deci, 2000). Aerobic exercises such as running, cycling, walking, and dancing have been found to reduce

anxiety and depression and alleviate symptoms of low self-esteem or social isolation (Sharma et al., 2006). Walking for as few as twenty minutes in a natural outdoor setting has been found to reduce overall stress hormones (Hunter et al., 2019).

There is strong evidence that physical activity is positively associated with mental health benefits, including improved quality of life and well-being (Bize, Johnson, and Platnikoff, 2007; Strohle, 2009). Guidelines developed by the American Heart Association (AHA) recommend that, “All healthy adults aged 18 to 65 years need moderate-intensity aerobic (endurance) physical activity for a minimum of 30 minutes on at least five days each week or vigorous-intensity aerobic physical activity for a minimum of 20 minutes on at least three days each week.” Their guidelines note that “combinations of moderate and vigorous intensity activities can be performed to meet this recommendation” (AHA, 2018). Outdoor exercises such as running, jogging, and walking are available forms of moderate to vigorous-intensity physical activities that can be done anywhere with minimal equipment. Running outdoors provides an accessible activity with a high return in health benefits (Menheere et al., 2020).

Exercising outdoors was one of the safest forms of exercise and recommended for social distancing prior to the creation and dissemination of vaccines (Minnesota Department of Health, 2022). Physical activities conducted in outdoor spaces have been positively associated with increased mental health benefits for participants (Bodin & Hartig, 2003; Cohen-Cline et al., 2015). Exercising in outdoor environments improves several wellness factors such, as sleep quality, vitality, psychological well-being, and overall stress reduction (Triguero-Mas et al., 2017). During the COVID-19 pandemic, health experts considered activities that took place outdoors to be safer practices as long as social distancing and mask-wearing could be maintained (MN Dept of Health, 2020; Olsson, 2020). Outdoor forms of exercise enjoyed a “boom” of

participation in 2020 as it became one of the only safe forms of exercise available for many people during the closures and shutdowns (Kim, 2020; King, 2020). As a result, walking and running became popular methods for individuals to become physically active during the pandemic when other indoor exercise forms were unavailable.

Middle-aged Women and Physical Activity

The population of adult women between the ages of 40-65 represents a demographic group who may have experienced unique life disruptions during the pandemic. This includes loss of employment, increased domestic responsibilities, greater risk of severe illness, and isolation from other family members due to travel restrictions (Woods, 2020). It is plausible that women in this age group are more likely to suffer damaging effects of living through a pandemic on their health and well-being due to economic factors and increased domestic responsibilities. Studies note that middle-aged women are more vulnerable to developing chronic diseases and that physical activity can play an essential role in preventing many diseases, such as hypertension, heart disease, cancer, anxiety, and depression (Rimmer, Wang, & Smith, 2008). Adult and older women are among the most sedentary demographic group (Lee, 1993; Rhodes et al., 1999; Ashe et al. 2008; Sims-Gould et al., 2010). Adult women are more sedentary than adult men and less likely to adopt exercise due to several factors, including the belief that other health-related behaviors, such as diet and rest, are more important (Lee, 1993). Many older women have the perception that exercise is unsafe and has the potential to do them harm (O'Brien, 2000; Wilcox et al., 2005). Studies have shown that women may also believe that exercise must be demanding and feel painful to be useful (Lee, 1993). Additional social barriers have been shown to deter women from participating in physical activity, such as having children (McGannon et al., 2012), domestic responsibilities (Hickey & Mason, 2017), lack of time (Eyler, 2003), inconvenience of

exercise locations (Rimmer et al., 2008) and insufficient access to financial resources for classes or equipment (DiPietro, 2001).

Purpose Statement and Specific Aims

The purpose of this study was to determine how outdoor exercise may have helped women between the ages of 40-65 manage their stress while living through the ongoing challenges of the Covid-19 pandemic. This was accomplished through the following specific aims:

Specific Aim #1: Determine the influence of the pandemic on stress, anxiety, mental wellness, and quality of life for middle-aged women.

Specific Aim #2: Explore women's lived experience of using outdoor forms of exercise as a coping strategy during times of increased stress and life disruption.

Methods

This study used qualitative case study approach that included 10 participants. Two interviews per participant were conducted a minimum of four weeks apart over the Zoom videoconferencing platform to explore how their use of an outdoor exercise program may have assisted these women in coping with stress related to the pandemic. Qualitative case study approaches have been found to favor "intensity and depth" in the interaction between the participants and their context (Marshall and Rossman, 2016, p. 19). Yin (2003) notes that a case study design is useful for asking "how" or "why" questions or in research seeking to uncover the contextual conditions relevant to the phenomenon" (p. 13).

Before the interviews, a brief demographic survey assessed the participant's gender, age, race, ethnicity, education, marriage and employment status, and current level of daily outdoor exercise. Data collected during the first interview was used to prepare questions for member-

checking and review in interview 2. Interview questions asked the participants to speak about their strategies to deal with stress and describe how COVID-19 personally impacted their lives.

Participants

After Institutional Review Board (IRB) approval was obtained, a combination of snowball and purposeful sampling was used to recruit 10 participants between the ages of 40-65 who identified as female for this study between March 2022 and August 2022. Purposeful sampling was used in this case study which was designed for the total number of participants to be a pool large enough to allow for a sufficient understanding of multiple contexts while also considering the deepness or richness of the data collected (Creswell, 2007; Yin, 2009). Criteria for selection were that the women started an outdoor exercise program involving running, jogging, or walking for at least six weeks during March 2020 shutdowns and continued until the time of data collection. The goal was to find participants who did not have a regular outdoor exercise routine prior to the pandemic and who continued to maintain an outdoor exercise routine since then. The definition of a self-reported outdoor exercise program included running, jogging, or walking at least three (3) days a week for a minimum of 30 minutes. The American Heart Association currently recommends that adults get at least 150 minutes of moderate, or 75 minutes of vigorous activity spread out through the week (American Heart Association, 2018). The time duration of 30 minutes was chosen as a criterion because both moderate (walking) and vigorous (running) exercises were permitted. If a woman was completing 90 minutes of cardio exercise, then they would be doing more than half of the moderate recommendation if walking or exceeding it if running. If the women were exercising outdoors for more than three days or participating in additional physical activities such as yoga, cycling, pickleball, or strength training, they could still be included in this study.

Invitations to participate were sent to running groups specific to women across the South Texas region of the United States through social media and running event program contacts. These invitations included an overview of the study, the commitment level required, and any potential risks or benefits for their participation. Three of the participants had recently joined one of the running groups and were participating virtually in events, but none of the other women were active in running groups. Table 1 provides demographic information on 10 participants. Names have been changed using pseudonyms to maintain confidentiality requirements.

Table 1. Participants

	Pseudonym	Age	City	Occupation	Family Status	Race	Ethnicity
1	Marissa	45	Austin area	Designer UX	Single	Other	Hispanic
2	Kathryn	45	San Antonio area	Insurance	Married with kids	Caucasian	Did not answer
3	Sarah	48	Austin area	Stay at home mom	Married with kids	Did not answer	Did not answer
4	Courtney	52	Houston area	Nurse	Divorced	Caucasian	Did not answer
5	Tasha	56	Dallas area	Marketing executive	Single	Black	Did not answer
6	Lori	47	San Antonio area	Secondary teacher	Married with kids	Caucasian	Did not answer
7	Virginia	50	Austin area	Small business owner	Married to Jennifer no kids	Caucasian	Did not answer
8	Jennifer	45	Austin area	Tech engineer	Married to Virginia no kids	Indian	Did not answer
9	Linda	64	El Paso area	Customer service	Married older kids	Caucasian	Did not answer
10	Karla	58	Houston area	Sales	Divorced with older kids	Black	Did not answer

Setting / Research Site

All participants in this study lived within the state of Texas during the data collection period. The state contains several large cities, a seasonal climate, less restrictive COVID-19 policies during data collection, a diverse population across demographic factors, and a high number of running groups. All the participants were in the metro areas of Austin, Houston, San Antonio, or El Paso, Texas. Public spaces such as parks, trails, and sidewalks in these cities remained open to outdoor exercise throughout the pandemic based on local, state, and federal laws. The state was also selected because it was the location of the researcher. Appendix E provides a breakdown of the 2020 statistics for these locations. Marshall and Rossman (2016) note that conducting research locally can provide automatic access but that the researcher should be aware that familiarity with the setting may also introduce blind spots, ethical conflicts, and other issues with bias. However, the network of known running groups and community leads enabled the lead investigator to more easily locate participants that met the criteria for this study.

Data Collection

The study was divided into five phases. The first phase was an introduction to the project and a demographic questionnaire. The second phase was conducting the first interview. The third phase involved transcribing and coding major and sub-themes from the first interview, and also included designing specific follow-up and member check questions for each participant in interview two. The fourth phase was conducting the second interview. Finally, the fifth phase involved transcribing and reviewing the data collected from the second interview to uncover new themes or reinforce existing codes.

Measures

After consenting to participate (Appendix A), the participants completed a demographic questionnaire and two interviews. Appendix B includes a sample email sent to women in six local running groups seeking participation in this study.

Background Demographic Survey

After entering the study, each woman completed a brief background demographic survey administered virtually (Appendix C) including their gender, age, race, ethnicity, education, marriage, employment status, and current level of daily outdoor exercise.

Interviews

Each participant engaged in two interviews lasting between 45-60 minutes at least four weeks apart. The first interview used an open-ended interview guide (Appendix D). The second interview asked many of the same questions but was tailored to each participant based on their previous responses as a follow-up check for understanding. This approach has been used successfully in previous studies related to understanding the experiences of long-distance runners (Simpson et al., 2014). The method allows the researcher to combine their personal experiences with those being interviewed which can, in turn, provide deeper interaction and meaning. Two examples of open-ended questions were: “Describe the process you are using to deal with COVID-19’s impact on your life?” or “Describe how walking, jogging, or running makes you feel?” The first interview was conducted within two weeks of each woman’s completion of the demographic survey using the videoconferencing Zoom platform, and the second interview was held four weeks after the first interview. The purpose of the second interview was to follow up on additional themes found in the data collection process, member-check emerging themes, and ask more individualized questions about their narratives. Both interviews were designed to allow

for the participant's feelings and experiences to guide the interview. Data collected from each interview was transcribed, coded, and analyzed separately. The goal of the interview method was to allow the "participant's perspective unfold as she sees it and not as the researcher views it" (Marshall & Rossman, 2016, p. 150).

Analysis and Coding Process

Data collected consisted primarily of interview transcripts, audio recordings, and jot notes taken during the interviews. The data analysis process relied heavily on a phenomenological approach (i.e., a description of participants' experiences), and narrative codes were deduced based on their frequency and context. The software program, MAXQDA 2022 (VERBI Software, 2021) was used to assist with data management. Rev transcription program was used for transcription services of the recorded interview audio, which was checked against the zoom program transcription and interview notes. The first phase of open coding intended to identify themes and name the data related to the women's experience of using their outdoor activities. Categories used to code the data emerged from the transcripts, and these initial codes were selected and organized to direct the next coding phase.

The second phase followed the same open coding approach. However, it focused specifically on names and themes related to stress, anxiety, mental health, or well-being to help determine the impact of the pandemic on their daily lives. The codes uncovered during this phase are listed in figure 1. The final third stage involved axial coding and clustering the first and second phase codes through concept mapping. Concept mapping is an applied social research method that uses qualitative data collection and then produces a visual map displaying a conceptualization of major themes across the participants (Kane & Trochim, 2007; Maxwell, 2004). Mind Meister, a cloud-based program, was used for visual concept mapping (Hollauf,

2022). The program identified all similar phrases, words, and ideas mentioned in the interviews. It then populated these into three main clusters based on similarity. Clustering allowed for a visual representation of the significant themes to emerge from the data into a concept map (Figure 2). This final cluster map combined codes into related themes reflecting the number of times the word or phrase was found and linked them into more prominent developing themes

Trustworthiness was established in two ways. First, the researcher participated in a bracketing interview with a presentation of data collected and emerging themes made to two peer reviewers during the ongoing data collection process. This bracketing was intended to help explore any assumptions or biases related to the topic and how this might have impacted the data analysis and findings. Second, the member checking of transcripts was incorporated into the procedures. The major emergent themes were shared with the participants to ensure that the themes accurately represented their experiences and voices. Each participant was provided two opportunities to provide feedback on the transcript once after the first interview and following the final interview. This reinforced the desire to use a praxis-oriented research design intended to both "illuminate the lived experiences" of the participants but also "be illuminated by their struggles" (Lather, 1991, p. 55). This approach did not necessitate the participant's involvement other than to review the transcripts for accuracy and further explanation where they deemed necessary. These modifications were adjusted in the transcript directly or included in the jot notes.

The threats of bias, positionality, sample size, and limited duration in the setting due to the study design were all potential threats to the trustworthiness. However, triangulation, reflectivity, bracketing, and member checking increased the dependability of the findings (Guba & Lincoln, 1985). Grounded theory requires the researcher to engage in ongoing reflexivity

about their constructions and interpretations of data. Constructing and linking themes within a cluster map facilitated the emergence of the grounded theory approach and assisted in uncovering themes to explain the phenomenon being studied. The process reflected a method of analysis that followed a systematic set of procedures to uncover themes. The analysis process was intended to provide participants a greater sense of ownership of their lived experience, share power, and improve trustworthiness.

Researcher Positionality

In a qualitative case study, it is essential to explore researcher bias and positionality. As a current runner who uses outdoor running and walking as an outlet while also living during the pandemic, conscious and unconscious experiences undoubtedly influence this research. However, intentional steps have been taken to minimize and bring awareness of the impact of my subjectivity. Marshall and Rossman (2016) suggest that asking the following questions should be considered: 1. Reflection questions about those being studied (participants); 2. Questions about the researcher's subjectivity (the qualitative inquirer); and 3. Questions about those receiving the study (audience) (p. 118). I found this idea of triangulation to be very helpful in considering my role, identity, and bias in the research process.

This research intentionally used reflective triangulated questions at bi-weekly planned intervals during data collection to bring awareness of any personal assumptions that might influence the research (Patton, 2015). This involved keeping a reflexivity journal separate from interview transcripts and other notes. Glesne (1999) expands on this advice and suggests that we should acknowledge that "authors increasingly write themselves into their texts, acknowledging they have always been there, creating meaning" (p. 176). Hertz (1996) asserts that when conducting a qualitative inquiry, the researcher actively participates in the process. Therefore,

multiple ongoing checks were included to help understand how the researcher's cultural and historical biases may influence the process.

Results

The results based on the frequency of occurrence are listed in Figure 1. These codes synthesize the women's responses collected in the interviews. This figure ranks words or phrase found in data collection based on frequency and indicated the number of times each participant (P) used the word or phrase during both interviews.

Figure 1. Codes

#	Code	Frequency	P1	P2	P3	P4	P5	P6	P7	P9	P9	P10
10	Health/heathier/healthy	178	22	14	17	19	20	21	12	20	15	18
31	Exercise/Exercising/Workout	171	18	9	15	10	17	18	22	27	32	3
11	Worried	156	20	18	19	13	10	16	18	13	20	9
24	Nature/Outdoors/Outside	136	19	8	11	18	17	14	19	8	10	12
32	Covid	135	20	15	8	20	8	7	18	16	13	10
29	Positive	121	16	18	7	10	14	14	15	8	8	11
13	Cope	114	18	20	18	17	10	12	6	7	4	2
9	Release	108	4	3	7	19	10	22	18	7	8	10
8	Anxious/Anxiety	103	8	10	10	12	7	14	6	9	12	15
20	Outlet	95	7	18	17	7	10	6	8	7	9	6
31	Virus	93	8	10	9	10	8	11	8	8	6	15
17	Isolated	91	10	14	13	17	8	7	6	5	7	4
1	Mental health	88	8	7	14	6	8	9	11	5	12	8
22	Connection	88	10	18	7	6	10	11	7	8	7	4
15	Happier	86	13	12	6	8	5	9	10	11	9	3
6	Together	83	6	8	9	10	11	5	3	11	12	8
7	Sick	83	8	8	7	7	9	9	3	12	6	14
23	Virtual/Online	78	8	8	10	11	6	8	2	6	10	9
3	Useful	72	3	5	1	8	1	12	7	8	20	7
14	Enjoyable	46	6	7	4	0	11	6	2	2	6	2
18	Alone	46	5	5	5	5	6	3	5	8	1	3
26	Hard/Difficult	43	7	8	3	4	5	8	1	1	1	5
27	New	40	3	8	4	0	7	1	8	9	0	0
16	Self-care	39	1	1	4	2	6	7	4	2	8	4
25	Air	44	10	4	4	4	3	6	2	0	1	10
12	Loss	34	3	5	8	0	0	2	3	1	8	4
28	Start/Starting	33	6	2	9	4	1	2	1	1	3	4
30	Interrupt/Interruption	29	6	8	2	2	2	1	1	4	1	2
2	Move	24	2	1	4	6	0	1	2	4	3	1
4	Improved quality of life	20	1	1	2	3	1	2	4	1	2	3
21	Plan	22	0	4	5	4	6	0	0	1	0	2
5	Spiritual	18	3	5	1	2	3	1	0	2	1	0

19	Safety	15	1	0	3	1	1	1	5	0	2	1
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While tracking frequency of usage highlights trends, it does not provide context or insight into the use of the word. The full cluster map is in Appendix F. Figure 2 shows the codes grouped them together to look for similarities and themes indicating five significant areas: 1. Exercise, 2. Outdoors, 3. Mental health factors, 4. Relationships, and 5. Health/safe care. Coding and member checking the interview transcripts with each participant also helped link these words or phrases into similar themes and categories. Figure 3 shows the final three themes of the cluster map process. The cluster mapping process served as an initial step in developing larger themes in the interview data.

Figure 2. Visual Cluster Map

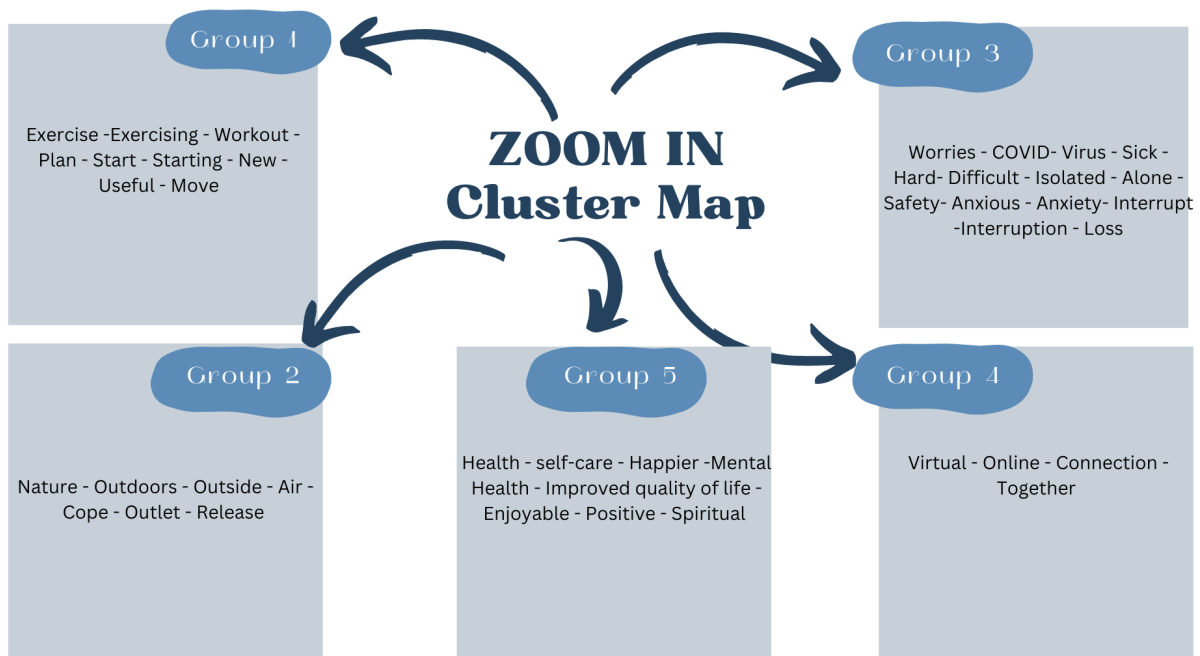
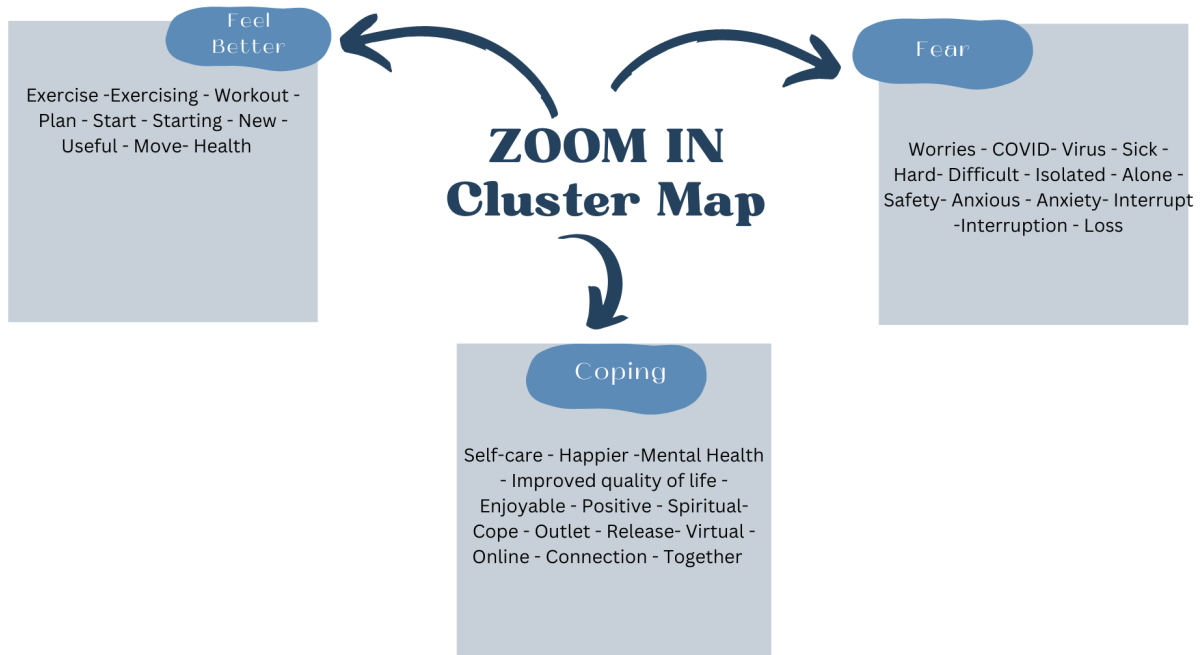


Figure 3. Adjusted Cluster Map with Major Themes



Interview Findings

This study sought to learn more about these women's lived experiences and how they approached starting and maintaining an exercise program during an unprecedented global health crisis. The findings further combined the five significant areas into three common themes representative of their experiences that may further insight into the impacts of the pandemic on their mental and physical health. This section discusses these themes from the interview findings providing examples from the voices and perspectives of the participants themselves.

Theme 1- Moving to feel better

All participants in the study responded that regularly walking, jogging, and running outdoors helped them to feel better and positively affected their well-being. All the participants found value in their exercise routine. The words "health" and "positive" ranked in the top six of

the most frequently used terms in the analysis of the interview transcripts. Research has found that middle-aged women are vulnerable to developing chronic diseases and that physical activities such as walking can prevent many of them (Ribeiro, Martins, and Carvalho, 2014). All 10 women in this study have continued using the outdoor physical activity they started during the pandemic to differing degrees. However, only one participant increased her weekly average running mileage. For example, Marissa, who started walking in the early mornings during the summer of 2020 and has notably continued to walk by starting a neighborhood walking program for women, noted that "I needed to do something. Walking was the easiest thing. There was no way I was going to go for a run. Every time I got back, I felt better. When I missed, I noticed it." The oldest woman in the study, "Linda," was worried about what she was learning about the virus's effects on those over 60. She started walking with her husband around their community because "I didn't know what exercises to do. Walking became our routine. Around the block. We started to look forward to that little thing."

Walking is one of the most accessible forms of physical activity that can be introduced into a person's daily life and routine (Hanson & Jones, 2015; Riberio et al., 2014). Lori, a full-time teacher in January 2021 struggling to adapt to online teaching for her eighth-grade math class, decided to start walking every other day because she felt it was the "safest option for social distancing since it was outdoors." She realized that she was not getting any steps in spending so much time online, so walking helped her feel better and get her "heart rate going." This was similar to Karla's response when asked what made her start exercising, she responded:

Honestly, I saw some other people outside (exercising) and I had time. It seemed like something I should be doing. I'm always happier after I run. Even when I don't want to (run). I wake up very early every day and do it even though I don't want to get up early

... And I think I've struggled less with my anxiety and depression compared to my coworkers. And I try to tell them. I'm like, 'You should really try this running thing.' It's honestly the best thing I started doing when we couldn't really do anything.

In mid- 2020, Kathryn found herself watching more shows, sitting at her desk, and not moving around when her family was forced to practice social distancing in their home outside of Houston. She noted that she put on some weight, and since she could not go to a gym, her screen time increased, and she felt "horrible." The pandemic also increased sedentary behaviors with remote working primarily through online platforms (McDowell, et al, 2020) A systematic review of 66 studies found that physical activity levels sharply declined for adults living in the UK, and sedentary behaviors increased during the lockdowns compared with pre-pandemic levels (Stockwell, et al., 2021). Kathryn said, "I felt lucky that my area didn't have a true lockdown. We could go outside and since that was my only choice I started jogging with my teenage son." Although she noted it was difficult to find the motivation, once she finished even an easy jog, she "felt like a new person." Based on the frequency of phrases and by listening to their own words, these findings suggest their chosen physical activity routines helped them feel better.

The responses from these women reflect consistent findings in preventative medicine that regular activity can help middle-aged women maintain and promote improved psychological and physiological health factors (Bize et al, 2007). These findings indicate that interventions targeting this population with accessible outdoor physical activity are perceived positively even during times of disruption and external stress. Virginia stated that without the option to walk in her neighborhood, she was not sure how she would have "made it through" because "getting away from the news just made me happier. It really is my self-care. Some people take a nap, but I'd go for a walk."

Theme 2 - Moving to Cope

Most of the women also used the words "cope," "outlet," or "release" when describing either how their activity made them feel or why they started being more active. For example, Sarah, a 48-year-old stay-at-home mom in Austin, Texas, described herself as a "former athlete" who had played soccer in college and even finished a marathon in 2014. However, before the pandemic, she noted that she stopped exercising as much, and her overall health levels dropped. When her community began to shut down in 2020, Sarah partially welcomed the opportunity to stay home and travel less for work. However, as the virus continued to spread and closures of work, school and businesses continued, she soon felt trapped in her home, "It hit me really hard. I couldn't see others and my family. It felt like loss. Very emotional. It was so hard on me and my daughter. I've never felt that stress." She noted that getting back into a running routine with two or three miles a few times a week helped her overcome her anxiety "I started to slowly feel like I knew myself again. I forgot how much I loved running, at least when I was done with it. Cleared my mind."

Although women already have increased domestic responsibilities, for several of the women in this study, they were suddenly responsible for managing and adapting to remote work, increased family needs, and other challenging domestic responsibilities. They were tasked with these requirements while figuring out how to live and work while dealing with the uncertainty, change, and unknown risk related to the global health crisis. Their experience is reflective of a larger trend. A 2020 research study looking at adults in Brazil found that stress and anxiety were up to three times more prominent in women than in men during the pandemic (Ferreria et al., 2020). These authors note that although more research is needed, it is plausible to conclude that underdeveloped coping schedules continue to shape the ongoing public health crisis. Experts in

this field argue that humans are physiologically designed to undergo different stress modes and react to them through various physical, mental, and emotional responses (Cleveland Clinic, 2020). Stress can be experienced as an acute, chronic, or continuous event for an individual with internal or external factors. For Courtney, a nurse who continued to work in her hospital treating patients with COVID-19, she experienced stress both as an acute and eventually a continuous event. She said, "I've never felt anything like that amount of worry and stress in my life. I had to find something to help me that was safe."

Research indicates that stress levels across all demographic groups increased due to the COVID-19 pandemic. However, it is important to note that it disproportionately affected (and continues to affect) women and women of color (Woods et al., 2020). Women and people of color remain two populations bearing the brunt of the pandemic's economic and social fallout, which, despite government and fiscal interventions, is serving only to worsen the gender-poverty gap (National Women's Law Center, 2021). While Tasha was not working on the front lines as a health or service provider, her financial situation changed unexpectedly when she was furloughed by her company in the summer of 2020, causing additional concern and worry. While she mentioned that she had previously struggled with anxiety, a friend told her to try jogging to help. She stated, "I don't know if this is too much information. I was taking medication for depression and anxiety, and I don't take it anymore, I just run." Lori echoed a similar effect of outdoor exercise saying that she felt that it was her form of meditation. She commented that:

I can't sit still. I just can't. I discovered this park near my house. Can't believe I didn't go there before. Even though it's been hot it's just beautiful. I feel relaxed when I am there walking. I can't do meditation. I know I should, but this is it for me. It's my spiritual experience. That's why I've keep doing it (maintaining her daily walking routine).

Theme 3 – Moving to Encourage Positivity

Recently published studies have also been interested in exploring the relationship between emotional health and the potential needs of women that could have been better addressed to help protect them during the pandemic. For example, Davis et al. (2021) used survey data from over 10,000 Australian perinatal women to ask if factors related to resilience, such as mindfulness and compassion, which they linked to having a positive mindset, may have helped them improve their mental health during the pandemic. They found that higher levels of self-compassion and mindfulness predicted higher mental health scores and lowered perceived stress levels for the women in their study. Although this study does not specifically represent the experiences of non-perinatal women, their findings are useful because they support the protective nature of mental health on physical health. This corresponds to comments made by Virginia that she felt that exercising outdoors was her "shield" against the virus. This suggests that even without measurements to quantify their improved health factors such as heart rate, BMI, or endurance, the self-perceived effectiveness of their running or walking program alone could be an effective strategy to positively impact their mindset, sense of self, and well-being.

Participating in social activities has been found to provide adults with the motivation to increase their level of physical activity and improve self-esteem and emotional and psychological support (Beauchamp et al, 2021). However, as a preventative measure to protect potentially vulnerable populations, most community organizations closed during the pandemic's peak. Thus, many were restrained from visits with family members or friends. The decrease in social interactions due to social distancing measures has been found to negatively impact older people's mental and physical health (Lima et al., 2021). Interview findings support these conclusions. Words like "worried" or "anxious" came up routinely in the interviews with the participants. For

instance, Tasha mentioned in both interviews that she was worried about her elderly parents getting the virus and becoming sick, not knowing what she would do to help them.

Jennifer did not like the unknown and unpredictable aspects of the virus. She found herself watching the news frequently, and when vaccines became available, she was relieved. "I've never experienced anything like this. I'm already an anxious person but this whole covid-thing has made me feel crazy." Marissa commented that she was an extrovert, but the pandemic brought on feelings isolation "So when things were closed and you couldn't socialize with anyone, I went to the park after I decided it was okay to do so. It was nice to just be outside with a few people." Marissa organized a few friends to walk together despite recommendations from local and state officials to not be around people outside of their primary household. "I've never really been alone. I've always had my friends, you know. So, I really I really missed it. I decided if we were outdoors and some of got the vaccination already, we would be fine."

Researchers investigating the use of quarantines with adults in previous virus outbreaks such as the Ebola virus have outlined the potential risks to a person's mental health from social isolation. These consequences include a higher risk of depression (Schuch, et al., 2020), emotional disturbance (Bera, 2022), stress (Flaudias, 2021), irritability (Panchal, 2021), or insomnia (Kokou-Kpolou, 2020). In a study examining the effects of isolation during COVID-19 on adults over sixty, Sepúlveda -Loyola et al., (2021) reported that early practices of social distancing in the pandemic led to negative consequences for their physical health. This was reflected in the interview findings, and many participants sought out connections where possible. For example, Linda and Sarah both felt it was best to attempt to connect with their family and friends through online methods. "I learned how to facetime," said Sarah, "I would talk to my daughter who lives in Phoenix, and she would ask me how I was doing. It was great to know she

was okay, and we were doing all right." Sarah also noted how fortunate she was to have a group of friends she talked to through Zoom. She also started using free virtual yoga classes on an app in addition to her running. To combat the feelings of isolation due to social distancing requirements, the women interviewed for this study not only found an outlet in exercise but also relied on virtual connections with their friends, families, and even strangers. Through text messages, video chats, and social media posts, women such as Linda and Sarah were able to increase their motivation to exercise.

Discussion

This study aimed to determine how outdoor exercise may have helped middle-aged women between the ages of 40-65 manage their stress while living through the ongoing challenges of the Covid-19 pandemic. Findings suggest that these women did find their outdoor exercise practices useful, but each had their reasons, experiences, and feelings about why it helped them manage their health.

The findings of this study provide deeper insight into the participants' lived experience of using outdoor forms of exercise as a coping strategy. Feminist theory is based on the idea that women's experiences and knowledge are both valid and necessary in forms of inquiry (Lather, 1991; Radtke, 2017). Women's "voices" have often been unacknowledged, missing, or even silenced. It is important to note that a person's ability to participate in physical exercises is interwoven with many forms of often unacknowledged privileges. For example, individuals from lower socio-economic backgrounds face significantly more barriers and less support for engaging in personal leisure time (Murray et al., 2012). Women of all ages continue to face harassment and physical violence threats when exercising in public or outdoor spaces due to their gender (Clark, 2013). This makes performing outdoor exercises like running, walking, or

jogging, particularly alone, a complex practice. Jennifer spoke of her safety concern and that she would only exercise outdoors at a popular public park. "There are just creepy people. I do like running with others, but I miss that now. Because you don't run alone as a woman, you just don't."

Limitations and Future Directions

This study included only one participant who continued to work in a high-risk environment during the shutdowns and did not include any women who served as essential workers during the pandemic. All the women interviewed had time and access to outdoor spaces. This is an obvious socio-economic privilege and lacks the perspective of women who may have wanted to exercise outdoors but could not due to the lack of time, resources, access, or safe options. Future studies should determine whether outdoor exercise interventions could be programmed to meet the needs of participants deemed essential during the pandemic and propose more public funding for outdoor spaces and parks across a broader range of socio-economic and demographic localities (Centers for Disease Control, 2021). Studies might also consider a deeper analysis by further breaking down the age of women between 40-65. For example, the participant's domestic responsibilities varied so specifically investigating women who younger children, adult children or no children would provide deeper insight.

Due to the timing of data collection, an underlying question that might be asked is if the participants were able to accurately recall the precise events of living through the pandemic, especially when days spent social distancing or in isolation could have been similar. The theoretical frameworks of social constructivist and feminist theory provide insight into this question. Social constructivism emphasizes that knowledge emerges through the individuals' interaction with their environment, and within this paradigm, a person's reality is socially

constructed, complex, and ever-changing (Glesne, 1999). In other words, how humans give meaning and order to their realities is a complex process that influences how they experience the world (Blumer, 1969; Glesne, 1999). Since the meaning that individuals attribute to behavior is constructed through their personal experiences, beliefs, and interactions, this study provides insight into how these participants perceived their lived realities during the global health crisis of COVID-19 and how they used their exercise as an intervention. It is difficult to determine with any accuracy if the women's reinterpretations of their emotions, feelings, and actions related to their past events are tinted with new biases of the present, and it is beyond the scope of this study. While this limitation could be perceived as a threat to these findings, qualitative inquiry reminds us that the participant's construction of their own lived realities is significant because it represents their specific experience. This research design purposely seeks to uncover their unique viewpoint. Charmaz (2000) writes that "data does not provide a window on reality but rather the 'discovered' reality arises from the interactive process and its temporal, cultural, and structural contexts" (p. 524). Therefore, the findings of this study are significant despite this possible limitation because they provide insight into how these women uniquely construct their realities within multiple social contexts while living through the pandemic. Reflecting Harding's (1991) standpoint theory, the case study findings presented allow these women to construct their own realities, sharing their own viewpoints and truth(s) on their own terms.

Conclusion

This project was designed to learn more about an under-represented population of adult women who decided to use outdoor exercise as an outlet or form of resistance while living through a global health crisis. How these women used their exercise to resist or cope with stress caused by the COVID-19 pandemic was undoubtedly influenced by many issues interconnected

with their gender, age, race, class, and other demographic factors. However, findings indicate a critical need for further exploration and awareness of available strategies or programs that could encourage increased physical activity within this population. If the uncertainty of COVID-19 continues to shift or a future health crisis emerges, these findings provide greater insight into how outdoor exercises virtual programming, classes or meet-ups may be recommended in response to such challenges in the future. To date, it is only one of a few known studies explicitly conducted on adult women from a mental and physical health perspective while living through this global health crisis. Overall, the findings highlight the importance of developing accessible approaches and strategies, such as outdoor physical exercise, that can be used to support and maintain the physical and mental health of middle-aged women during times of crisis such as the COVID-19 pandemic. The mental health aspects of the women in this study were and could continue to be amplified by this crisis. Findings indicate that outdoor exercise practices were found to be protective and valuable for each participant. This could indicate that mediation-based strategies to help middle-aged women start and maintain outdoor exercise programs might help support women in the future, but further research is needed. These findings should be viewed as a starting point for further research and potential recommendations for planning, practitioners, and individuals as we seek to prepare for prospective infection waves or pandemics. This study seeks to contribute to the growing literature furthering our understanding of the mental and physical health impacts of a pandemic, specifically for middle-aged women.

CHAPTER II: DISSEMINATION

I plan on sharing these findings directly with health professionals who can design exercise programs targeting middle-aged women. I have applied to the Johnson County Department of Health and Environment (JCDHE) which is in Johnson County, Kansas about speaking at the 2023 Health Summit. It will be held in the late summer or early fall. In 2022, this conference was attended by over 150 community health leaders and focused on how to “best create environments, programs and conditions that will ensure everyone in Johnson County has an opportunity to be as healthy as possible” (Recap, 2022). The summit is a two-day event, and I am applying to speak during one of the breakout sessions where participants will hear the information in the presentation but also be encouraged to ask questions and engage.

I believe that this health summit’s intentional focus on ensuring that all who live in Johnson County have adequate opportunities to be as healthy as possible aligns with the findings and recommendations from this research. There will be local government officials in attendance who could potentially use outdoor exercise programs and initiatives to build bridges through cross-sector collaborations and policies to improve the health of all community members. Speaking to this audience of health experts and policy makers about my research has the potential to both share recommendations and help the programs prioritize removing systemic obstacles to health including poverty and discrimination that affect middle-aged women. The goal would be to provide these attendees with a strong rationale to prioritize creating more targeted exercise programs for women that can grow and evolve through public infrastructure as the population of Johnson County increases and needs to potentially adapt to any new health risks. The narrative for the 2023 Health Summit is included below.

Presentation Narrative. I will use the Summit PowerPoint Templates to create the presentation slides.

Slide 1: Title & Overview Slide- *Speaking Script: Hello my name is Jené Baclawski. I live here in Lenexa, Kansas. I am also a recent graduate from the EdD program in Kinesiology at the University of North Carolina Greensboro. During my program, I became interested in learning more about how middle-aged women between the ages of 40-65 found certain outdoor cardiovascular exercises such as running, walking, or jogging useful during the Covid-19 pandemic as a strategy for improving their physical and mental health. Today I will be sharing a summary of my research with you.*

Slide 2: Background and Known Impacts of the Pandemic- *The World Health Organization declared COVID-19 a public health emergency in January 2020. Despite advances in vaccines and treatments, COVID-19 is still generating a mental-health pandemic of unmatched proportions that will continue long after the virus is gone. As we continue to learn more about its impacts, women have and continue to bear the brunt of the economic and social fallout of COVID-19.*

Slide 3: Impacts on Women- *The impacts of crises are never felt uniformly, and COVID-19 has been no exception. In the United States, the pandemic has devastated marginalized groups. For example, women and people of color continue to bear the brunt of the economic and social fallout of COVID-19, which is serving to worsen the global gender-poverty gap. This gap is driven by a disproportionate increase in women's unemployment and domestic responsibilities.*

Slide 4: Statistics- Economy- *The statistics related to women are staggering. 2.3 million women in the U.S. completely dropped out of the labor force in 2020. Economists do not expect women's employment levels to return to their pre-pandemic quantity until 2024. Due to the ongoing effects*

of the pandemic on our economy, followed by a possible recession, marginalized groups will continue to deal with long-term economic fallout related to the pandemic. This will lead to increased stress levels.

Slide 5: Statistics- Stress and Anxiety- *The impact of pandemic stress on mental health is likely to be magnified in populations that have been economically and socially marginalized. In 2020, 27% of women worldwide reported an increase in anxiety, stress, and mental health issues because of the pandemic compared to only 10% of men. Nearly half of all U.S. Adults (47%) stated that the stress level in their life increased compared to their lives before the pandemic. Feelings of anxiety, the rise in unease, worry, loss of interest, and stress increased sharply for women*

Slide 6: Presentation Path- *Even when we are beginning to emerge from the deepest parts of this health crisis, as health advocates and policy makers it is critical to recognize that COVID-19 continues to affect much more than physical health but that it is also generating a mental-health pandemic of unmatched proportions. Experts argue that this will continue long after the virus is gone. This is particularly true for individuals in marginalized populations such as middle and older women.*

Slide 7: Inception of Project- *In the early months of the pandemic back in 2020, I was sitting at home and became interested in this woman who I started to see every morning jogging or walking my block. I had never noticed her before, but I saw her on this same route pretty much around the same time every morning. As I watched her, I noticed she was getting a bit faster and running more than she was walking. I decided that I wanted to learn more about her and her decisions to get outdoors and exercise. Was this helping her to cope? Was she stressed and*

nervous? Did she find it enjoyable? Was she lonely by herself? What was her motivation? These were some of the most basic questions that drove me to design a research project.

Slide 8: Purpose of Study- *So I did. The purpose of my study was to better understand how middle-aged women, who decided to start a self-directed exercise program during the pandemic, used their outdoor exercise to possibly assist them in managing life disruptions, stress, and any perceived challenge caused by the COVID-19 pandemic. I felt it was critical to learn from the women directly on how they uniquely experienced stress and what strategies assisted them in minimizing any associated mental health risks. After all, I thought, this may not be the last public health crisis we will face.*

Slide 9: Aims- *My study aimed to determine how using outdoor cardiovascular exercise may have helped women between the ages of 40-65 to effectively manage their stress while living through the ongoing changes of the Covid-19 pandemic.*

- *Specific Aim #1: Determine the influence of the pandemic on the levels of stress, anxiety, mental wellness, and quality of life for middle-aged women.*
- *Specific Aim #2: Explore their lived experience of using outdoor forms of exercise as a coping strategy to determine suggestions for improving future interventions designed to help middle-aged women during times of increased stress and life disruption.*

Slide 10: Background and Scholarly Research- *Before I review the specifics of my study, it's important to explore the scholarly research which guided my investigation/*

Slide 11: Coping and Stress- *Researchers have been interested in how people deal with stress and their work was particularly helpful as a theoretical framework. The model of cognitive appraisal, first established by Lazarus and Folkman (1984), focused on how individuals appraise and respond to internal or external stressors. Their work focused on how a person, the*

environment, and the cognitive evaluation process help individuals identify available resources and options. Appraising and using available resources enables individuals to negotiate with new, existing, or ongoing external demands. Those resources could become an available coping mechanism.

Slide 12: Benefits of Exercise on Mental Health- *Research has found that regular forms of exercise, such as running or walking, help people improve overall health (Lee et al., 2017), manage anxiety and stress (Dogra et al., 2018; Gilbody et al., 2001; Hackney & Viru, 1999), reduce depression (Rimer et al., 2012; Strohle, 2009) and aid in the recovery process after traumatic events (Merelas-Iglesias & Sánchez-Bello, 2019). There is strong evidence that physical activity is positively associated with mental health benefits, including improved quality of life and well-being (Bize, Johnson, and Platnikoff, 2007; Strohle, 2009).*

Slide 13: Outdoor Activity- *Physical activities conducted in outdoor spaces have been positively associated with increased mental health benefits for participants (Bodin & Hartig, 2003; Cohen-Cline et al., 2015). Exercising in outdoor environments improves several wellness factors such, as sleep quality, vitality, psychological well-being, and overall stress reduction (Triguero-Mas et al., 2017). During the pandemic, health experts considered activities that took place outdoors to be safer practices as long as social distancing and mask-wearing could be maintained (MN Dept of Health, 2020; Olsson, 2020).*

Slide 14: Middle-Aged Women and Activity- *Middle-aged women are more vulnerable to developing chronic diseases and that physical activity can play an essential role in preventing many diseases, such as hypertension, heart disease, cancer, anxiety, and depression (Rimmer, Wang, & Smith, 2008). Adult and older women are among the most sedentary demographic group (Lee, 1993; Rhodes et al., 1999; Ashe et al. 2008; Sims-Gould et al., 2010).*

Slide 15: Final Notes on Middle-aged Women, the Pandemic and Exercise- *The population of older adult women between the ages of 40-65 used for this study represents a demographic group who may have experienced unique life disruptions during the pandemic due to their age.*

Slide 16: This project- *Following IRB Approval and Informed consent, this study used a qualitative design approach to interview 10 middle-aged women to learn more about the influences of the pandemic on their stress levels and how they began using outdoor forms of exercise as a potential coping strategy. All of the women interviewed self-report that they started an outdoor exercise program involving running, jogging, or walking for at least six weeks during the start of the shutdowns in March 2020 and continued until the time of data collection*

Slide 17: Participant Demographics- *A case study approach using a combination of snowball and purposeful sampling techniques to target a diverse selection of ten participants (within the age parameters) and purposeful sampling of age, marital/family status, employment, race, income, and other demographic factors were used. All of the participants were located in South Texas as this was where I was residing during this time. All of the women also completed two Zoom interviews held at least four weeks apart. Here is an overview of the participant demographics (Include Table 1)*

Slide 18: Procedures- *There were five phases of the research procedures during data collection*

- 1. The first phase was an introduction to the project and a demographic questionnaire.*
- 2. The second phase was conducting the first interview*
- 3. The third phase involved transcribing and coding major and sub-themes from the first interview. This also included designing specific follow-up and member check questions for each participant in interview two.*
- 4. The fourth phase was conducting the second interview.*

5. *The final phase involved transcribing and reviewing the data collected from the second interview to uncover new themes or reinforce existing codes. All interview data were coded using a form of concept mapping.*

Slide 19: Analysis- *The data analysis process relied heavily on a phenomenological approach (i.e., a description of participants' experiences), and narrative codes were deducted based on their frequency and context. The software program, MAXQDA 2022 (VERBI Software, 2021) was used to assist in data management. There were two phases to the coding: One looking to identify themes from outdoor activity use and the second related to mental health themes such as stress or anxiety. These codes were clustered on a concept map to look for ways that data and emerging themes fit together.*

Slide 20: Codes- *These codes are ranked based on the frequency of how often the word occurred during the data collection process. (Include Figure 1)*

Slide 21: Concept Map- *The concept map looked for relationships between the codes allowing for a visual representation of the significant themes. Here is the map (Include Figure 2)*

Slide 22: Notable Themes- *There were three major themes that were found during the interviews. These provide further insight into the impacts of the pandemic on their physical and mental health as well as how they found outdoor exercise useful. The three themes are: 1. Moving to feel better; 2. Moving to cope; 3. Moving to encourage positivity*

Slide 23: Theme 1- *HAVE THE QUOTES ON THE SLIDE - All participants in the study responded that regularly walking, jogging, and running outdoors helped them to feel better and positively affected their well-being.*

Marissa, - "I needed to do something. Walking was the easiest thing. There was no way I was going to go for a run. Every time I got back, I felt better. When I missed, I noticed it."

Karla's- Honestly, I saw some other people outside (exercising) and I had time. It seemed like something I should be doing. I'm always happier after I run. Even when I don't want to (run). I wake up very early every day and do it even though I don't want to get up early ... And I think I've struggled less with my anxiety and depression compared to my coworkers. And I try to tell them. I'm like, 'You should really try this running thing.' It's honestly the best thing I started doing when we couldn't really do anything.

Linda - "I didn't know what exercises to do. Walking became our routine. Around the block. We started to look forward to that little thing."

Slide 24: Theme 2- *Most of the women also used the words "cope," "outlet," or "release" when describing either how their activity made them feel or why they started being more active.*

Sarah -"It hit me really hard. I couldn't see others and my family. It felt like loss. Very emotional. It was so hard on me and my daughter. I've never felt that (kind of) stress.... I forgot how much I loved running, at least when I was done with it. Cleared my mind.

Courtney - "I've never felt anything like that amount of worry and stress in my life. I had to find something"

Lori- "I can't sit still. I just can't. I discovered this park near my house. Can't believe I didn't go there before. Even though it's been hot it's just beautiful. I feel relaxed when I am there walking. I can't do meditation. I know I should, but this is it for me. It's my spiritual experience. That's why I've keep doing it (maintaining her daily walking routine)."

Slide 25: Theme 3- *Recently published studies have also been interested in exploring the relationship between emotional health and the potential needs of women that could have been better addressed to help protect them during the pandemic.*

Virginia- commented that she felt that exercising outdoors was her "shield" against the virus.

This suggests that even without measurements to quantify their improved health factors such as heart rate, BMI, or endurance, the self-perceived effectiveness of their running or walking program alone could be an effective coping strategy to positively impact their mindset, sense of self, and well-being.

To combat the feelings of isolation due to social distancing requirements, the women interviewed for this study not only found an outlet in exercise but also relied on virtual connections with their friends, families, and even strangers.

Slide 26: Conclusions & Limitations- *Findings indicate that outdoor exercise practices were found to be protective and valuable for each participant. These women did find their outdoor exercise practices useful, but each had their reasons, experiences, and feelings about why it helped them manage their health. Since the uncertainty of COVID-19 continues to shift and change, this study provides greater insight into how this physical activity may be used in response to future challenges such as personal adversity or life changes. My study's findings highlight the importance of developing accessible approaches and strategies, such as outdoor physical exercise, that can be used to support and maintain the physical and mental health of middle-aged women during times of crisis such as the COVID-19 pandemic.*

Slide 27: Implications and Future Research- *The findings of this study support that mediation-based strategies should be prioritized to help middle-aged women start and maintain outdoor exercise programs. These types of programs would help support women in the future, but further research is needed. How these women used their exercise to resist or cope with stress caused by the COVID-19 pandemic was undoubtedly influenced by many issues interconnected with their gender, age, race, class, and other demographic factors. However, findings indicate a critical*

need for further exploration and awareness of available strategies or programs that could encourage increased physical activity within this population.

Slide 28: Discussion and Q&A- *This study should be viewed as a starting point for further research and potential recommendations for planning, practitioners, and individuals as we seek to prepare for prospective infection waves or pandemics. It seeks to contribute to the growing literature furthering our understanding of the mental and physical health impacts of a pandemic, specifically for middle-aged women. I'd like to take this time to answer any questions you may have about what I have presented.*

Slide 29: Thank You and Contact Information

Slide 30: References

CHAPTER III: ACTION PLAN

My immediate action plan to use the findings of this study to make a direct impact is to share these findings directly to middle-aged women in the South Texas communities and start a neighborhood running and walking group for middle-aged women in my new town of Lenexa, KS. I have reached out to the same running groups in South Texas who assisted in locating potential participants and plan to share these results as either a virtual zoom presentation or speaker with their membership in the spring of 2023.

In October 2022, I reached out to the Lenexa community parks and recreation departments as well as posted an announcement on social networks such as Next door and Facebook about starting an exercise group for women. We have started meeting on Saturday mornings and have had two dates where twelve participants have joined. As word spreads, I see this group size continuing to grow. I was inspired by the stories of these women and found that I enjoyed the connections of talking about exercise with women who have similar experiences to mine. I believe that form of what I call micro-advocacy is a legitimate type of action and a practical way to take academic work out of the silo and make it actionable and impactful on a local level. I also believe that this neighborhood group will be a great way to connect women with each other and promote healthy activities in my community which reflects the findings of this research study.

Outside of these weekly exercise meetups, starting in January I plan on hosting a monthly where a guest speaker, small business, or fitness teacher will be invited to share wellness and health information with this group. For example, I will start by sharing the findings of this study and how outdoor exercise was beneficial for these participants. I will use a similar presentation as the one I am preparing to share with the Johnson County Department of Health summit in

2023 but modified for this audience. I have also connected with a yoga instructor who is willing to host a yoga session during one of these monthly social meetings. My long-term plans are to have members of this group also participate in local events such as 5ks or charity walks and to find sponsors for t-shirts, snacks, and other gifts for participants. I see many possibilities for this action plan but ultimately the group will always focus on motivating middle-aged women to be active outdoors.

Professional Plans

While I do not expect to learn if my application to present will be accepted until early next year, I do believe that my proposal is in line with the goals for the Health Summit. This summit is ideal for the dissemination of this project's findings because it reached a wide cross-section of community members but is focused on health leaders who can create and promote health agendas targeting all members of the community. Johnson County is the largest county in Kansas and its population is projected to increase by almost 60% between 2016 and 2066, a rate more than twice that of the state of Kansas (Moving Health Forward, 2022). The county is also becoming more diverse as projections indicate that the non-Hispanic Black and Hispanic populations will grow by 149.2% and 176.5%, respectively, between 2016 and 2066 (Moving Health Forward, 2022). I intend to share with these health experts why prioritizing outdoor cardiovascular activities for middle-aged women is an important program to support both in Johnson County and in the Kansas/Missouri areas.

I also plan to continue my research exploring women's use and experience of running and walking. In addition to this community group action plan, my long-term goal is to do more research in this area where I would like to incorporate some of the proposed studies discussed here such as exploring women's perceptions of agency and their ability to adapt, respond and

maintain healthy lifestyles into old age. I would like to find a more diverse participant pool and find opportunities to create similar exercise groups targeting women of all backgrounds and identities to promote health and shared experiences. It is essential to look at a broader range of participants and possibly incorporate mixed methods into the design of future studies. I hope this leads to future academic research and potential publications in this area. I see future findings having the potential to further promote the use of outdoor exercise for program design, community wellness agendas, and exercise intervention studies. I believe that the results of this study should be made accessible directly to women who may share similarities with the participants in my study or anyone else who desires to use outdoor running or walking as a tool for dealing with disruptions or challenges.

Lastly, in addition to speaking at this conference and speaking to South Texas running social groups, I also plan to submit an article manuscript for submission to the Sport Journal, an open-access peer-reviewed journal addressing current issues in sports (Sport Journal, 2022). The goal for disseminating these findings in this journal is to target other researchers doing work in this area and to contribute further to professional practice in the field

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APPENDIX A: IRB INFORMATION SHEET

Project Title: Running through a pandemic: Exploring how middle-aged women used exercise as a coping strategy during times of increased stress and life disruption. Principal Investigator and Faculty Advisor: Jené Baclawski (PI) and Dr. Michael Hemphill (Advisor)

What is this all about? I am asking you to participate in this research study because the purpose of this study is to explore how the pandemic has affected adult women's perceived levels of life disruption, stress, and mental wellness. This study seeks to determine if the activities of running or walking outdoors are useful strategies to help women cope during times of heightened stress and life disruption. This research project will only take about two hours of your time and will involve you completing a brief demographic survey and participating in two virtual interviews, each lasting no longer than 60 mins, on Zoom. Both interviews will be recorded. Your participation in this research project is voluntary. How will this negatively affect me? No, other than the time you spend on this project there are no know or foreseeable risks involved with this study. What do I get out of this research project? You and/or society will or might increase the body of knowledge in the subject area of this study. However, there are no direct benefits to participants in this study. Your awareness of how exercise may be beneficial to improved mental health may be increased. There are no direct benefits related to improved fitness or other incentives specific to this study. Will I get paid for participating? There is no compensation for participating in this study. What about my confidentiality? We will do everything possible to make sure that your information is kept confidential. All information obtained in this study is strictly confidential unless disclosure is required by law. Absolute confidentiality of data provided through the Internet cannot be guaranteed due to the limited protections of Internet access. In addition, Please be sure to close your browser when finished so no one will be able to

see what you have been doing. I will take reasonable measures to protect the security of all personal information. This will be maintained through the use of pseudonyms and encryption of data collection with a cloud backup using a two-step authentication process. There will be no master list linking participants names or other identifying information to their pseudonym in this study. In addition to myself (the principal investigator), the following people and offices will have access to the data: 1. My UNCG dissertation committee and any appropriate UNCG support or leadership staff. 2. The UNCG Institutional Review Board

What if I do not want to be in this research study? You do not have to be part of this project. This project is voluntary and it is up to you to decide to participate in this research project. If you agree to participate at any time in this project you may stop participating without penalty. What if I have questions? You can ask Jené Baclawski (PI) djbaclaw@uncg.edu (512) 630-0787 and/or Dr. Michael Hemphill mahemphi@uncg.edu (Advisor) (336) 334-4008 anything about the study. If you have concerns about how you have been treated in this study call the Office of Research Integrity Director at 1-855-251-2351.

APPENDIX B: DEMOGRAPHIC SURVEY QUESTIONS

My name is Jené Baclawski and I am a doctoral student at the University of North Carolina Greenboro. I am conducting a research study on the use of exercise to help reduce stress in middle-aged women who are living through the COVID-19 pandemic. I am seeking your consent to participate in this study. Please read this document to learn more about this study and determine if you would like to participate. Your participation is completely voluntary, and I will address your questions or concerns at any point during the study

Risks - There are no foreseeable risks or discomforts associated with this study. You can still skip any question you do not wish to answer, skip any activity, or stop participating at any time.

Benefits - If you participate, there are no direct benefits to you. This research may increase the body of knowledge in the subject area of this study.

Privacy and Data Protection - I will take reasonable measures to protect the security of all your personal information, but I cannot guarantee confidentiality of your research data. In addition to me, the following people and offices will have access to your data: 1. My UNCG dissertation committee and any appropriate UNCG support or leadership staff. 2. The UNCG Institutional Review Board I will securely store your data for 3 years. Then, I will delete electronic data and destroy paper data.

How the Results Will Be Used- I will publish the results in my dissertation. I may also share the results in a presentation or publication. Participants will not be identified in the results.

Contact Information If you have questions, you can contact me at: dbaclaw@uncg.edu. My dissertation chair's name is Dr. Michael Hemphill. He works at UNCG and is supervising me on the research. You can contact him at: hempillm@uncg.edu. If you have questions about your

rights in the research or if a problem or injury has occurred during your participation, please contact the UNCG Office of Research Integrity at ori@uncg.edu

Do you agree to participate in this study? Yes, I agree No, I disagree

In order to protect your confidentiality, what pseudonym would you like to be referred to in this study? (ex. Nancy, Jane, etc). Text box answer

Demographics

What is your gender? Male Female Nonbinary Other

What is your age? Under 18 18 – 24 25 – 34 35 – 44 45 – 54 55 – 64 65 – 74 75 – 84 85 or older

Are you of Hispanic, Latino, or Spanish origin? Yes No

How would you describe yourself? Please select all that apply. White Black or African American

American Indian or Alaska Native Asian Native Hawaiian or Pacific Islander Other

What is the highest degree or level of school you have completed? Less than a high school diploma High school degree or equivalent (e.g. GED) Some college, no degree Associate degree (e.g. AA, AS) Bachelor's degree (e.g. BA, BS) Master's degree (e.g. MA, MS, MEd) Doctorate or professional degree (e.g. MD, DDS, PhD)

What is your marital status? Single (never married) Married, or in a domestic partnership Widowed Divorced Separated

What is your current employment status? Employed full time (40 or more hours per week) Employed part time (up to 39 hours per week) Unemployed and currently looking for

work Unemployed not currently looking for work Student Retired Homemaker Self-employed
Unable to work

What is your profession? (ex. sales, teacher, marketing) Text box answer

How many days a week do you currently walk, run or jog outdoors? 0 1-2 3-4 5-6 7

How many miles a week do you average walking, running or jogging outdoors?

1 2-5 6-10 11-14 15-20 21-24 25-30 31-34 35-40 40+

APPENDIX C: EMAIL SCRIPT

Hello, my name is Jené Baclawski and I am a current graduate student at the University of North Carolina Greensboro doing research for my dissertation. Do you like talking to other people about running? Has running been a source of stress relief for you since the pandemic hit CTX this spring? If so, I'd love the opportunity to talk to you more and I'd be grateful for you to assist me. You are eligible if you are a woman between the ages of 40-65 who started an outdoor exercise routine at any time during the pandemic (starting after March 2020) and have maintained doing this activity for a period of at least six weeks. If you decide to participate, you'll be asked to take about two hours of your time to participate in two separate interviews held over Zoom.

Your participation in this research project is voluntary and at any time you can stop participating. If you are interested, please contact me for more information at djbaclaw@uncg.edu

APPENDIX D: INTERVIEW GUIDE FIRST ZOOM INTERVIEW

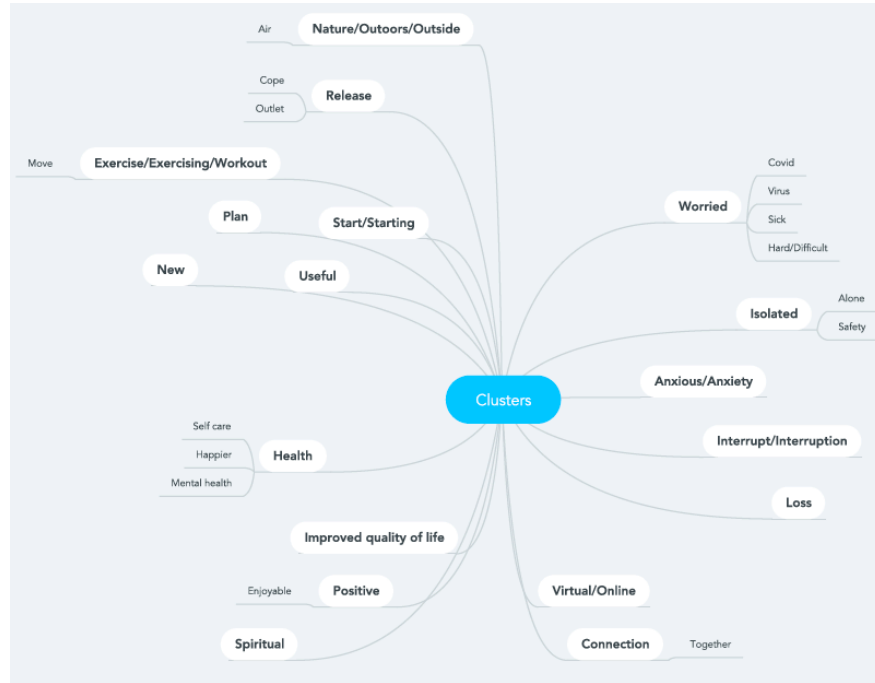
Interview Section		Aim	Question(s)
1	Introduction	To explain the purpose of the project, overview the interview, and identify key demographic information	<p>“I want to talk to you about how running, jogging or walking might have been useful during the start of the covid-19 shutdowns. This interview is divided into 5 short sections beginning with your background/demographic info, then we’ll talk about your exercise, then we’ll discuss the pandemic, and finally how exercise might have helped you deal with this experience.”</p> <ol style="list-style-type: none"> 1. Can you tell me a little background about yourself such as where you are living, your age, race, occupation, and any details you’d like to share about your family? 2. How much did you exercise outdoors before the shutdowns from the pandemic? 3. What made you decide to start exercising outdoors? 4. Describe any processes or routines you are using to deal with COVID-19’s impact on your life? 5. What is your current level of participation (e.g., how many times a week? Miles?) 6. How would you describe your health?
2	Build rapport	To develop a level of trust and rapport between interviewers and participant	<ol style="list-style-type: none"> 1. What do you enjoy most about walking/jogging/running? 2. Are there any accomplishments related to your walking/jogging/running that you most proud of?
3	Exercise		<ol style="list-style-type: none"> 1. Describe how walking, jogging, or running makes you feel?” 2. Tell me about a situation when you felt walking/jogging/running outdoors helped you personally? 3. Can you describe to me what your process looks like of preparing for, doing, and finishing your exercise? 4. Do you feel that it has helped overcome challenges? In what ways?

			5. You have probably had some interesting experiences exercising during the pandemic, can you recall any of them?
4	Identify personal experiences of disruption caused by pandemic	To identify how the pandemic has affected them and explore their physical, mental, and emotional responses.	<ol style="list-style-type: none"> 1. Could you describe the ways COVID-19 has impacted you starting with March 2020 and moving to today? 2. What's the biggest challenge you've faced? 3. How will you describe your experience of living through this pandemic to others?
5	Resilience	To explore the factors related to acquisition or strengthening of resilience qualities	<ol style="list-style-type: none"> 1. I'm interested in how exercise helps us become more resilient, what does the term resilience bring to mind for you? 2. Do you consider yourself resilient? In what ways? 3. Has your exercise influenced these qualities? 4. Could you describe an experience where you considered yourself not to be resilient but discovered that you were more resilient than you first thought? 5. How has your resiliency improved from the experience of living through a pandemic?
6	Additional Comments		<ol style="list-style-type: none"> 1. Would you like to add anything that we have not yet discussed that you feel can add to my understanding of your experiences of exercising and living during the pandemic?

APPENDIX E: 2020 STATISTICS FOR TEXAS CITIES USED FOR RESEARCH SITES

City	Population	White	Black	Hispanic	Asian	Median Income
Houston, TX	2,320,268	57	22.6	45	6.8	52,238.00
Dallas, TX	1,343,572	62.7	24.3	41.8	3.4	52,580.00
San Antonio, TX	1,343,572	80.3	7	64.2	2.8	52,455.00
Austin, TX	978,908	72.6	7.8	33.9	7.6	71,576.00
El Paso, TX	839,238	91.8	4	82.9	1.4	46,871.00

APPENDIX F: MIND MEISTER FULL CLUSTER MAP OF CODES



APPENDIX G: DEFENSE PRESENTATION DECEMBER 5, 2022



**Moving through a global health crisis:
Exploring how middle-aged women used
outdoor exercise during the COVID-19
pandemic**

By: Jené Baclawski
Defense: December 5, 2022
Chair: Dr. Michael Hemphill, Ph.D.
Committee: Dr. Diane Gill, Ph.D. and Erin Riefstreck, Ph.D.




2

“

It hit me really hard. I couldn't see others and my family. It felt like loss. Very emotional. It was so hard on me and my daughter. I've never felt that stress...


”

“


... then I started to slowly feel like myself again. I forgot how much I loved running at least when I was done with it. It cleared my mind.

”

-48-year-old Sarah, a stay-at-home mom reflecting on how exercise helped her during the pandemic shutdowns



3



4

The Big Picture

- The World Health Organization declared COVID-19 a public health emergency in January 2020
- COVID-19 is still generating a mental-health pandemic of unmatched proportions (Richardson et al., 2022)
- Women continue to bear the brunt of the economic and social fallout of COVID-19. (Sachs et al., 2022; Vancy, 2020)
- This is driven by a disproportionate increase in women's unemployment and domestic responsibilities (UN Women, 2020)
- In 2020, 27% of women worldwide reported an increase in anxiety, stress, and mental health issues because of the pandemic compared to only 10% of men (CARE, 2020)
- This is particularly true for middle-aged women, who are already particularly vulnerable to experiencing the most burdensome physiological effects of COVID-19 (Woods et al., 2020)
- They are also at higher risk for increased feelings of stress and negative mental impacts from the pandemic (Woods et al., 2020)

Background Research

Benefits of Exercise on Mental Health
 • overall health (Lee et al., 2017)


Cardio exercise may help people cope with stress (Rejesus and Folkman, 1984)

Cardio exercise helps:


- individuals cope with stress (Nicholls et al., 2009)
- build resilience (Jaeschke, Sachs & Dieffenbach, 2016)
- experience enjoyment (Williams, 2013)
- grow social support (Cronan & Scott, 2008)
- increase optimism (Bull et al., 1996)
- promote increased feelings of self-determination (Ryan & Deci, 2000)

Cardio exercise helps:

- individuals cope with stress (Nicholls et al., 2009)
- build resilience (Jaeschke, Sachs & Dieffenbach, 2016)
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- increase optimism (Bull et al., 1996)
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5

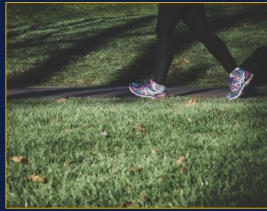


6

What we also know

Benefits of Outdoor Exercise

- Outdoor forms of exercise enjoyed a "boom" of participation during pandemic (Kim, 2020)
- Outdoor physical activities have been positively associated with increased mental health benefits (Bodin & Hartig, 2003; Cohen-Cline et al., 2015)
- Exercising outdoors improves a variety of health factors including:
 - sleep quality
 - Vitality
 - psychological well-being
 - overall stress reduction
 - (Triguero-Mas et al., 2017).



What we know about middle-aged women

<p>MORE VULNERABLE</p> <p><i>(Rimmer, Wang, & Smith, 2008).</i></p>	<p>MOST SEDENTARY</p> <p><i>(Rhodes et al., 1998; Ashe et al. 2008; Strac-Sould et al., 2010)</i></p>	<p>FACE BARRIERS</p> <p><i>(McGannon et al., 2012; Hickey & Mason, 2017; Eytar, 2003; Rimmer et al., 2008; DiPietro, 2007)</i></p>	<p>LEAST LIKELY TO ADOPT EXERCISE</p> <p><i>(Lee, 1993)</i></p>
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Research indicates that adult women between the ages of 40-65 are a demographic group who may have experienced unique life disruptions during the pandemic due to their age.

This includes (but isn't limited to):

- loss of employment
- increased domestic responsibilities
 - greater risk of severe illness
- and isolation from other family members due to travel restrictions

(Woods, 2020)

Purpose

The purpose of this study was to determine how using outdoor cardiovascular exercise may have helped women between the ages of 40-65 to effectively manage their stress while living through the ongoing challenges of the Covid-19 pandemic.

Aims

1. Determine the influence of the pandemic on the levels of stress, anxiety, mental wellness, and quality of life for middle-aged women.
2. Explore their lived experience of using outdoor forms of exercise as a coping strategy during times of increased stress and life disruption.

Methods



Qualitative Methods

- Demographics Survey
- Two Interviews



10 Participants

- Case study approach

Methods Cont.

- Combination of snowball and purposeful sampling from March 2022 to August 2022
- Invitations sent to running groups and individuals leading running/walking programs across Texas in Houston, Austin, Dallas, San Antonio, and El Paso
- Inclusion criteria:
 - Middle-aged women (40-65) who started outdoor exercise program involving running, jogging, or walking for at least six weeks during the start of the March 2020 shutdowns and continued until the time of data collection.
 - It was preferred to find participants who did not have a regular outdoor exercise routine prior to the pandemic
 - The definition of a self-reported outdoor exercise program included running, jogging, or walking at least three (3) days a week for a minimum of 30 minutes.
- Informed consent and IRB approval by UNCG
- Participants represented a somewhat diverse pool of women from different age, race, ethnicity, education, family, and income levels across major Texas cities.
- Race/ethnicity: Indian (1), Black/African American (2), Hispanic/Latino (1), white/Caucasian (5), did not answer (1)



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Participants

	Pseudonym	Age	City	Occupation	Family Status	Race	Ethnicity
1	Marissa	45	Austin area	Designer UX	Single	Other	Hispanic
2	Kathryn	45	San Antonio area	Insurance	Married with kids	Caucasian	Did not answer
3	Sarah	48	Austin area	Stay at home mom	Married with kids	Did not answer	Did not answer
4	Courtney	52	Houston area	Nurse	Divorced	Caucasian	Did not answer
5	Tasha	56	Dallas area	Marketing executive	Single	Black	Did not answer
6	Lori	47	San Antonio area	Secondary teacher	Married with kids	Caucasian	Did not answer
7	Virginia	50	Austin area	Small business owner	Married to Jennifer no kids	Caucasian	Did not answer
8	Jennifer	45	Austin area	Tech engineer	Married to Virginia no kids	Indian	Did not answer
9	Linda	64	El Paso area	Customer service	Married older kids	Caucasian	Did not answer
10	Karla	58	Houston area	Sales	Divorced older kids	Black	Did not answer



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Data Collection

Background Demographic Survey

Interview 1

- 45 mins
- Open-ended questions
- Zoom



Four weeks later

Interview 2

- 45 mins
- Follow-up
- Member checking
- Open-ended questions
- Zoom



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Data Collection Phases

- 1 • Introduction to the project and a demographic questionnaire
- 2 • Conducting the first interview
- 3 • Transcribing and coding major and sub-themes from the first interview
- 4 • Conducting the second interview
- 5 • Transcribing and reviewing the data collected from the second interview



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Data Analysis Process



Data Analysis Rounds for each interview



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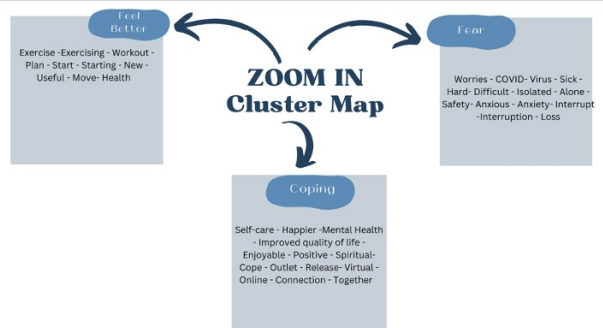
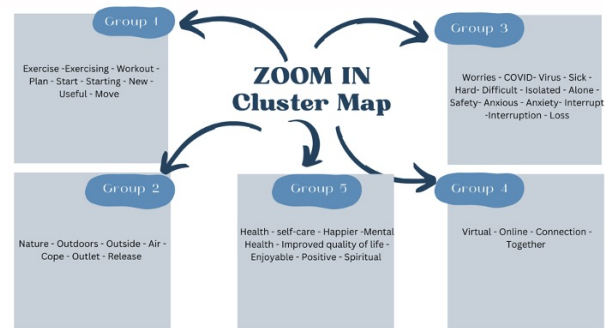


18

32 Codes (top 19)

#	Code	Frequency
10	Health/heathier/healthy	178
31	Exercise/Exercising/Workout	171
11	Worried	156
24	Nature/Outdoors/Outside	136
32	Covid	135
29	Positive	121
13	Cope	114
9	Release	108
8	Anxious/Anxiety	103
20	Outlet	95
31	Virus	93
17	Isolated	91
1	Mental health	88
22	Connection	88
15	Happier	86
6	Together	83
7	Sick	83
23	Virtual/Online	78
3	Useful	72

Results Cluster Map

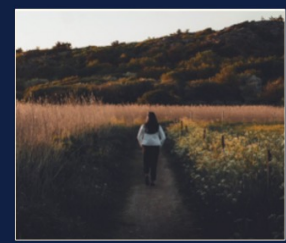


Findings - Themes

- 1 Moving to Feel Better
- 2 Moving to Cope
- 3 Moving to Encourage Positivity

Interview Narratives

Aim 2 -
 "To explore their lived experience.."
In their own words



Theme 1 - Moving to feel better

All participants in the study responded that regularly walking, jogging, and running outdoors helped them to feel better and positively affected their well-being.

<p>"I needed to do something.</p> <p>Walking was the easiest thing.</p> <p>There was no way I was going to go for a run. Every time I got back, I felt better.</p> <p>When I missed, I noticed it."</p> <p>- Marissa</p>	<p>"(Exercising) seemed like something I should be doing.</p> <p>You should really try this running thing. It's honestly the best thing I started doing when we couldn't really do anything."</p> <p>- Karla</p>	<p>"I didn't know what exercises to do. Walking became our routine. Around the block.</p> <p>We started to look forward to that little thing."</p> <p>- Linda</p>	<p>"We could go outside and since that was my only choice I started jogging with my teenage son.</p> <p>...[I] felt like a new person."</p> <p>- Kathryn</p>
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Theme 2 - Moving to Cope

The women also used the words "cope," "outlet," or "release" when describing either how their activity made them feel or why they started being more active.

<p>"I've never felt that (kind of) stress... I forgot how much I loved running, at least when I was done with it.</p> <p>Cleared my mind."</p> <p>- Sarah</p>	<p>"I've never felt anything like that amount of worry and stress in my life. I had to find something"</p> <p>- Courtney</p>	<p>"I can't sit still. I just can't. I discovered this park near my house... I feel relaxed when I am there walking. I can't do meditation. I know I should, but this is it for me. It's my spiritual experience. That's why I've keep doing it."</p> <p>- Lori</p>	<p>"I don't know if this is too much information. I was taking medication for depression and anxiety, and I don't take it anymore, I just run."</p> <p>- Tasha</p>
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Theme 3 - Moving to encourage positivity

Findings also reflected the unique relationships between emotional health and the needs of women to help protect them during the pandemic.

<p>Exercising outdoors was viewed as a physical and mental "shield" against the effects of the pandemic, the virus, and infection.</p> <p>- Virginia</p>	<p>Even distancing seeing others outdoors with her helped</p> <p>"So when things were closed and you couldn't socialize with anyone, I went to the park after I decided it was okay to do so. It was nice to just be outside with a few people."</p> <p>- Marissa</p>	<p>Talking about doing exercise helped combat feelings of isolation</p> <p>"I learned how to facetime [with my daughter]. It was great to know she was okay, and we were doing all right."</p> <p>- Sarah</p>	<p>Commenting on how exercise helped her</p> <p>"I've never experienced anything like this. I'm already an anxious person but this whole covid-thing has made me feel crazy."</p> <p>- Jennifer</p>
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Discussion

- Findings indicate that outdoor exercise practices were found to be protective and valuable for each participant, but each had their reasons, experiences, and feelings about why it helped them manage their health
- There is a need to develop accessible approaches and strategies that can be used during times of crisis or stress
- Meditation-based strategies should be prioritized to help middle-aged women start and maintain outdoor exercise programs. These types of programs would help support women in the future, but further research is needed



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Discussion cont.

- It is important to note that a person's ability to participate in physical exercises is interwoven with many forms of often unacknowledged privileges
- For all women, performing outdoor exercises like running, walking, or jogging, particularly alone, is a complex practice
- A larger and more diverse sample of participants could provide deeper insight



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Future Directions

Dissemination	Plan of Action
<p>I plan to share these findings directly to health professionals who can design exercise programs targeting middle-aged women and directly to middle-aged women themselves.</p> <ol style="list-style-type: none"> 1. Speak at the 2023 Health Summit in Johnson County, KS 2. Findings can be used to inform both organizational decisions and personal choices which encourage women to access and use outdoor spaces for their own physical and mental health. <p>I have reached out to the same running groups in South Texas who assisted in locating potential participants and plan to share these results as either a virtual zoom presentation or speaker with their membership in the spring of 2023.</p>	<p>My immediate action plan is to use the findings of this study to make a direct impact is to start a neighborhood running and walking group for middle-aged women</p> <p>I am organizing a monthly meet up in January 2023 where a fitness expert and small business will share wellness and health information with this group</p>



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Conclusion

- This study is a starting point for further research and potential recommendations for planning, practitioners, and individuals
- Findings highlight the importance of developing accessible approaches and strategies that can be used to support middle-aged women during future times of crisis
- It seeks to contribute to the growing literature furthering our understanding of the mental and physical health impacts of a pandemic.



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Thank you!
Q & A

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